

AMENDMENTS TO THE CLAIMS:

1. (Original) A moving picture indexing and searching method using a motion activity describing method, comprising the steps of:

describing a motion feature information in terms of a video name, a time stamp and an f-code which is a motion feature range; and

indexing and searching a moving picture using said motion feature information.

2. (Original) The method of claim 1, wherein said video name has a plurality of time stamps and a f_code.

3. (Original) A moving picture indexing and searching method using a motion activity describing method, comprising the steps of:

describing a motion feature information in terms of a video name and a time stamp, and a frequency of an Inter mode of No_MC, a frequency of an Intra mode of No_MC and a frequency of an MC mode obtained by a selected process; and

indexing and searching a moving picture using said motion feature information.

4. (Original) The method of claim 3, wherein said video name has a plurality of time stamps, a frequency of an Inter mode of a No_MC, a frequency of an Intra mode of a No_MC, and a frequency of an MC mode.

5. (Currently Amended) The method of claim 3, wherein said selected process comprises:

a first step of determining whether an MB_Mode is a No_MC mode;

a second step of determining whether MB_Mode is No_MC_inter mode, if MB_Mode is determined as No_MC mode in said first step;

a third step of increasing counting value (no_mc_inter) of a counter for counting a frequency of No_MC_Inter mode and determining whether a current MB is a last MB, if MB_Mode is determined as No_MC_Inter mode in said second step, and determining whether MB_Mode is No_MC_Intra mode if MB_Mode is not determined as No_MC_Inter mode;

a fourth step of increasing counting value (no_mc_intra) of a counter for counting a frequency of No_MC_Intra mode and determining whether a current MB is a last MB, if MB_Mode is determined as No_MC_Intra mode in said third step, and increasing counting value (mc) of a counter for counting a frequency of MC mode and determining whether a current MB is a last MB, if MB_Mode is not determined as No_MC mode in said third step; and

a fifth step of increasing number of macro blocks (TotMBs) used in a motion feature range and repeatedly performing said first to third steps if said current MB is not determined as a last MB in said fourth step, and if said current MB is determined as a last MB in said fourth step, obtaining a frequency (No_MC_Inter_Ratio) of Inter mode of No_MC, frequency (Intra_Ratio) of Intra mode of No_MC, ~~if said current MB is determined as a last MB in said fourth step~~, according to the following Equations:

[Equation]

$$\text{No_MC_Inter_Ratio} = \text{no_mc_inter}/\text{TotMBs}$$

$$\text{Intra_Ratio} = \text{no_mc_intra}/\text{TotMBs}$$

$$\text{MC_Ratio} = \text{mc}/\text{TotMBs}$$

6. (Original) A moving picture indexing and searching method using a motion activity describing technique, comprising the steps of:

describing a motion feature information based on a video name, a time stamp and a frequency of an Inter mode of a No_MC obtained by a selected process; and indexing and searching a moving picture using said motion feature information.

7. (Original) The method of claim 6, wherein said video name has a plurality of time stamps and a frequency of an Inter mode of an No_MC.

8. (Currently Amended) The method of claim 6, wherein said selected process comprises:

a first step of increasing counting value (mc_nc_inter) of a counter for counting a frequency of No_MC_Inter mode and determining whether a current MB is a last MB if said MB_Mode is No_MC mode and No_MC_Inter mode; and

a second step of increasing number of macroblocks (TotMBs) used in a motion feature range and repeatedly performing said first step if said current MB is not determined as a last MB in said first step, and if said current MB is the last MB, obtaining a frequency (No_MC_Inter_Ratio) of Inter mode of No_MC according to the following Equation, ~~if said current MB is the last MB~~:

[Equation]

$$\text{No_MC_Inter_Ratio} = \text{no_mc_inter} / \text{TotMBs}$$

9. (Original) A moving picture indexing and searching method using a motion activity describing technique, comprising the steps of:

describing a motion feature information based on a video name, a time stamp and a frequency of an Intra mode of a No_MC obtained by a selected process; and indexing and searching a moving picture using said motion feature information.

10. (Original) The method of claim 9, wherein said video name has a plurality of name information and a frequency of Intra mode of a No_MC.

11. (Currently Amended) The method of claim 9, wherein said selected process comprises:

a first step of increasing counting value(mc_nc_intra) of a counter for counting a frequency of No_MC_Intra mode and determining whether a current MB is a last MB if said MB_Mode is No_MC mode and No_MC_Intra mode; and

a second step of increasing number of macro blocks (TotMBs) used in a motion feature range and repeatedly performing said first step if said current MB is not determined as a last MB in said first step, and if said current MB is the last MB, obtaining frequency (Intra_Ratio) of Intra mode of No_MC according to the following Equation, ~~if said current MB is the last MB:~~

[Equation]

$$\text{Intra_Ratio} = \text{no_mc_intra} / \text{TotMBs}.$$

12. (Original) A moving picture indexing and searching method using a motion activity describing technique, comprising the steps of:

describing a motion feature information based on a video name, a time stamp and a frequency of an MC mode obtained by a selected process; and

indexing and searching a moving picture using said motion feature information.

13. (Original) The method of claim 12, wherein said video name has a frequency of a plurality of time stamps and a frequency of an MC mode.

14. (Currently Amended) The method of claim 12, wherein said selected process comprises:

a first step of increasing counting value(mc) of a counter for counting a frequency of MC mode and determining whether a current MB is a last MB if said MB_Mode is not No_MC mode; and

a second step of increasing number of macro blocks (TotMBs) used in a motion feature range and repeatedly performing said first step if said current MB is not determined as a last MB in said first step, and if said current MB is the last MB, obtaining a frequency (MC_Ratio) with respect to MC mode according to the following Equation;
~~if said current MB is the last MB.;~~

~~{Equation}~~

$$MC_Ratio = mc/TotMBs.$$

15. (Currently Amended) A moving picture indexing and searching method using a motion activity describing technique, comprising the steps of:

describing a feature information based on a video name and a time stamp and a frequency of an MC_Coded mode and a frequency of an MC_Not_[[c]]Coded mode obtained by a selected process; and

indexing and searching a moving picture using said feature information.

16. (Original) The method of claim 15, wherein said video name has a plurality of time stamps, a frequency of an MC_coded mode and a frequency of an MC_Not_Coded mode.

17. (Currently Amended) The method of claim 15, wherein said selected process comprises:

a first step of determining whether MB_Mode is MC mode;

a second step of determining whether MB_Mode is MC_Coded mode, if said MB_Mode is determined as MC mode in said first step;

a third step of determining whether a current MB is a last MB by increasing counting value (mc_not_coded) of a counter for counting a frequency of MC_Not_Coded mode, if said MB_Mode is not determined as MC_Coded mode in said second step, and increasing counting value (mc_coded) of a counter for counting a frequency of MC_Coded mode and further increasing counting value(mc) of a counter for counting a frequency of MC mode;

a fourth step of increasing number of macro blocks (TotMBs) used in a motion feature range and repeatedly performing said first to third steps if said current MB is determined as not a last MB in said third step, and if said current MB is the last MB, obtaining a frequency (MC_Coded_Ratio) of the MC_Coded mode and a frequency (MC_Not_Coded_Ratio) of the Not_Coded mode according to the following Equation, ~~if said current MB is the last MB~~. Equations:

~~{Equation}~~

$$MC_Coded_Ratio = mc_coded/mc$$

$$MC_Not_Coded_Ratio = mc_not_coded/mc$$

18. (Original) A moving picture indexing and searching method using a motion activity technique, comprising the steps of:

describing a feature information based on a video name, a time stamp and a frequency of an MC_Coded mode and a frequency of an MC_Not_Coded mode; and

measuring a similarity by comparing the frequency of MC_Coded mode of a moving picture of a smaller f_code with the frequency of MC_Coded mode of a larger f_code or with the frequency of MC_Not_Coded mode with respect to a moving picture

having different f_codes, and indexing and searching a moving picture using said feature information.

19. (Original) The method of claim 18, wherein said video name has a plurality of time stamps, a frequency of MC_Coded mode and a frequency of MC_Not_Coded mode.

20. (Currently Amended) The method of claim 18, wherein said selected process comprises:

a first step of determining whether MB_Mode is MC mode;

a second step of determining whether said MB_Mode is MC_Coded mode, if said MB_Mode is determined as MC mode in said first step;

a third step of increasing counting value (mc_not_coded) of a counter for counting a frequency of MC_Not_Coded mode if said MB_Mode is not determined as MC_Coded mode in said second step, and increasing counting value (mc_coded) of a counter for counting a frequency of MC_Coded mode, increasing counting value(mc) of a counter for counting MC mode, and determining whether a current MB is a last MB if said MB_Mode is determined as MC_Coded mode in said second step; and

a fourth step of increasing number of macro blocks (TotMBs) used in a motion feature range and repeatedly performing said first to third steps if said current MB is not determined as a last MB in said third step, and if said MB is determined as a last MB in said third step, obtaining a frequency (MC_Coded_Ratio) of MC_Coded mode and a frequency (MC_Not_Coded_Ratio) of Not_Coded mode according to the following Equation ~~if said MB is determined as a last MB in said third step~~. Equations:

{Equation}

$$\text{MC_Coded_Ratio} = \text{mc_coded}/\text{mc}$$

$$\text{MC_Not_Coded_Ratio} = \text{mc_not_coded}/\text{mc}$$

21. (Original) A moving picture indexing and searching method using a motion activity describing technique, comprising the steps of:

describing a motion feature information in terms of a video name, a time stamp and a frequency of Inter mode of No_MC obtained by a selected process, a frequency of Intra mode of said No_MC, a frequency of MC mode, a frequency of a Coded mode with respect to MC mode and a frequency of Not_Coded mode with respect to MC mode; and indexing and searching a moving picture using said motion feature information.

22. (Original) The method of claim 21, wherein said video name has a frequency of a plurality of time stamps, a frequency of Inter mode of No_MC, a frequency of Intra mode of No_MC, a frequency of MC mode, a frequency of Coded mode with respect to Inter mode, a frequency of MC mode, a frequency of Coded mode with respect to MC mode, and a frequency of Not_Coded mode with respect to MC mode.

23. (Currently Amended) The method of claim 21, wherein said selected process comprises:

a first step of determining whether MB_Mode is No_MC mode;

a second step of determining whether said MB_Mode is No_MC inter mode, if said MB_Mode is determined as No_MC mode in said first step;

a third step of increasing counting value (no_mc_inter) of a counter for counting a frequency of No_MC_Inter mode if said MB_Mode is determined as No_MC_Inter mode in said second step, and determining whether MB_Mode is No_MC_Intra mode if said MB_Mode is not determined as No_MC_Inter mode in said second step;

a fourth step of increasing counting value(no_mc_intra) of a counter for counting a frequency of No_MC_Intra mode if said MB_Mode is determined as No_MC_Intra

mode in said third step, and determining whether MB_Mode is MC mode if said

MB_Mode is not determined as No_MC_Intra mode;

a fifth step of determining whether said MB_Mode is MC_Coded mode if said

MB_Mode is determined as MC mode in said fourth step;

a sixth step of increasing counting value (mc_not_coded) of a counter for counting a frequency of MC_Not_Coded mode if said MB_Mode is not determined as MC_Coded mode in said fifth step, and increasing counting value (mc_coded) of a counter for counting a frequency of MC_Coded mode, increasing counting value (mc) of a counter for counting a frequency of MC mode, and determining whether a current MB is a 1st MB if said MB_Mode is determined as MC_Coded mode in said fifth step; and

a seventh step of increasing number of macro blocks (TotMBs) used in a motion feature range and repeatedly performing said first to sixth steps if said current MB is not determined as a last MB in said sixth step, and if said MB is determined as a last MB in said sixth step, obtaining a frequency(No_MC_Inter_Ratio) of Inter mode of No_MC, a frequency(Intra_Ratio) of Intra mode of No_MC, a frequency (MC_Ratio) with respect to MC mode, a frequency(MC_Coded_Ratio) of MC_Coded mode, and a frequency(MC_Not_Coded_Ratio) of Not_Coded mode according to the following Equation if said MB is determined as a last MB in said sixth step. Equations:

{Equation}

$$\text{No_MC_Inter_Ratio} = \text{no_mc_inter}/\text{TotMBs}$$

$$\text{Intra_Ratio} = \text{no_mc_intra}/\text{totMBs}$$

$$\text{MC_Ratio} = \text{mc}/\text{TotMBs}$$

$$\text{MC_Coded_Ratio} = \text{mc_coded}/\text{mc}$$

$$\text{MC_Not_Coded_Ratio} = \text{mc_not_coded}/\text{mc}$$

24. (Original) A moving picture indexing and searching method using a motion activity describing technique, comprising the steps of:

classifying a motion vector of a macro block having a video name, time stamp, MC_Not_Coded mode, MC_Coded mode and No_MC_Inter mode in accordance with f_code, describing in terms of f_code frequency obtained by a selected process, measuring a similarity by comparing each f_code frequency, and indexing and searching a moving picture using said motion feature information.

25. (Currently Amended) The method of claim 24, wherein said selected step comprises:

a first step of determining whether the MB_Mode is an MC_Mode;

a second step of increasing a counting value (f_code_c[1]) of a counter of f_code 1 and determining whether a current MB is a last MB if the MB_Mode is determined as Inter mode of No_MC mode;

a third step of selecting the largest X-axis motion vector (mv_x) and the largest Y-axis motion vector (mv_y) as a largest motion vector (max_mv), obtaining a maximum value k of f_code by the selected max_mv/16, increasing the counting value (f_code_c[k]) of the obtained f_counter, and determining whether a current MB is the last MB if MB_Mode is determined as MC_Mode in said first step; and

a fourth step of increasing a number of macro block used in a motion feature range, repeatedly performing said first to third steps, and if a current MB is the last MB, obtaining a frequency of f_code according to the following Equation ~~if a current MB is the last MB~~:

{Equation}

$$f_code_ratio[k] = f_code_c[k] / TotMBs.$$

26. (Original) A moving picture indexing and searching method using a motion activity describing technique, comprising the steps of:

classifying a motion vector of a macro block having a video name, time stamp, MC_Not_Coded mode, MC_Coded mode and No_MC_Inter mode in accordance with f_code, describing in terms of f_code frequency obtained by a selected process, measuring a similarity by comparing each f_code frequency with an at least one adjacent f_code frequency, and indexing and searching a moving picture using said motion feature information.

27. (Currently Amended) The method of claim 26, wherein said selected step comprises:

a first step of determining whether the MB_Mode is an MC_Mode;

a second step of increasing a counting value (f_code_c[1]) of a counter of f_code 1 and determining whether a current MB is a last MB if the MB_Mode is determined as Inter mode of No_MC mode;

a third step of selecting the largest X-axis motion vector (mv_x) and the largest Y-axis motion vector (mv_y) as a largest motion vector(max_mv), obtaining a maximum value k of f_code by the selected max_mv/16, increasing the counting value (f_code_c[k]) of the obtained f_counter, and determining whether a current MB is the last MB if MB_Mode is determined as MC_Mode in said first step; and

a fourth step of increasing a number of macro block used in a motion feature range, repeatedly performing said first to third steps, and if a current MB is not determined as a last MB in said second and third steps, obtaining a frequency of f_code according to the following Equation ~~if a current MB is not determined as a last MB in said second and third steps~~:

{Equation}

$$f_code_ratio[k] = f_code_c[k]/TotMBs.$$

28. (Original) A moving picture indexing and searching method using a motion activity describing technique, comprising the steps of:

classifying a motion vector of a macro block having a video name, time stamp, MC_Not_Coded mode, MC_Coded mode and No_MC_Inter mode in accordance with f_code, describing in terms of f_code frequency obtained by a selected process, measuring a similarity by comparing each f_code frequency with an at least one adjacent f_code frequency, said comparison is performed in such a manner that said similarity is larger when said motion vector is closer to a maximum value and a minimum value of a vector range described by each f_code and a reproduced motion compensation error is larger, and a weighted value is added to a frequency of f_code larger than the relevant f_code, and indexing and searching a moving picture using said f_code frequency.

29. (Currently Amended) The method of claim 28, wherein said selected step comprises:

a first step of determining whether the MB_Mode is an MC_Mode;

a second step of increasing a counting value (f_code_c[1]) of a counter of f_code 1 and determining whether a current MB is a last MB if the MB_Mode is determined as Inter mode of No_MC mode in said first step;

a third step of selecting the largest X-axis motion vector (mv_x) and the largest Y-axis motion vector (mv_y) as a largest motion vector (max_mv), obtaining a maximum value k of f_code by the selected max_mv/16, increasing the counting value (f_code_c[k]) of the obtained f_counter, and determining whether a current MB is the last MB if MB_Mode is determined as MC_Mode in said first step; and

a fourth step of increasing a number of macro blocks used in a motion feature range and repeatedly performing said first to third steps, and if the current MB is determined as a last MB in said second and third steps, obtaining a frequency of f_code according to the following Equation ~~if the current MB is determined as a last MB in said second and third steps~~:

[Equation]

$$f_code_ratio[k] = f_code_c[k]/TotMBs.$$

30. (Original) A moving picture indexing and searching method using a motion activity describing technique, comprising the steps of:

describing a feature information in terms of a video name and a time stamp and a frequency of Inter mode of No_MC and a frequency of Intra mode of No_MC obtained by a selected process; and indexing and searching a moving picture using said feature information.

31. (Currently Amended) The method of claim 30, wherein said selected process comprises:

a first step of determining whether MC_Mode is No_MC mode;

a second step of determining whether said MB_Mode is No_MC_inter mode, if said MC_Mode is determined as No_MC mode in said first step;

a third step of increasing counting value (no_mc_inter) of a counter for counting a frequency of No_MC_Inter mode if said MB_Mode is determined as No_MC_Inter mode and determining whether a current MB is a last MB in said second step, and determining whether MB_Mode is No_MC_Intra mode if said MB_Mode is not determined as No_MC_Inter mode in said second step;

a fourth step of increasing counting value (no_mc_intra) of a counter for counting a frequency of No_MC_Intra mode if said MB_Mode is determined as No_MC_Intra mode in said third step, and determining whether a current MB is a last MB if said MB_Mode is not determined as No_MC_Intra mode; and

a fifth step of increasing number of macro blocks (TotMBs) used in a motion feature range and repeatedly performing said first to fourth steps if said current MB is not determined as a last MB in said third and fourth steps, and if said MB is determined as a last MB in said fourth step, obtaining a frequency (No_MC_Inter_Ratio) of Inter mode of No_MC and a frequency (No_MC_Intra_Ratio) of Intra mode of No_MC according to the following Equation if said MB is determined as a last MB in said fourth step.

Equations:

{Equation}

$$\text{No_MC_Inter_Ratio} = \text{no_mc_inter} / \text{TotMBs}$$

$$\text{Intra_Ratio} = \text{no_mc_intra} / \text{TotMBs}$$